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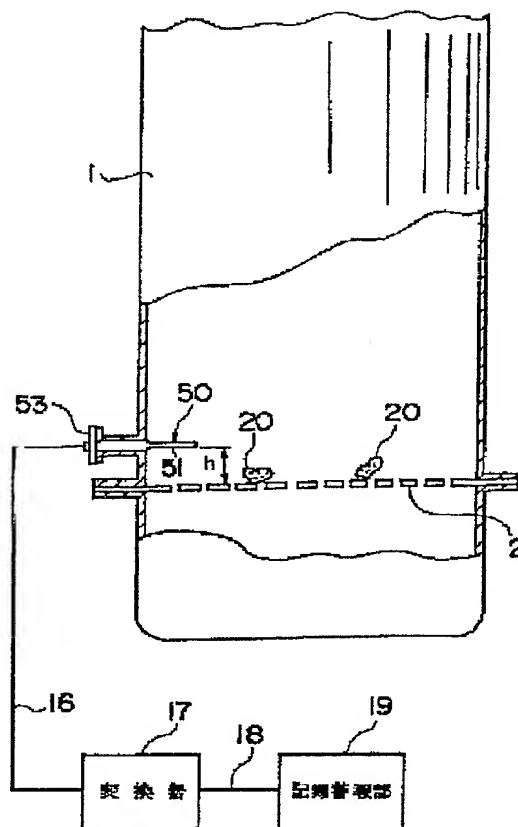
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TITLE : METHOD AND APPARATUS FOR
DETECTING LUMP AND
POLYMERIZER EQUIPPED WITH THIS
APPARATUS



ABSTRACT : PROBLEM TO BE SOLVED: To detect the existence of lumps in a mixed-phase container containing a powder fluidized by a gas safely and easily without fail by measuring the strain exerted on a detecting rod disposed inside the container.

SOLUTION: A sparger 2 is provided on the bottom of a mixed-phase container 1 (e.g. fluidized bed olefin polymerizer) in which a fluidized mixed phase comprising a gas and a powder is formed. A rod 50 for detecting the existence of a lump 20 is provided on the inner wall of the container 1 and above the sparger 20, and four strain detecting means are provided at the suitable positions of the rod 50. While starting materials, etc., are being fed into the container, a circulation gas fed from the bottom of the container 1 is blown upwardly from the openings formed in the sparger 2 to form a fluidized mixed phase containing the gas and the powder. The existence and size of a lump 20 formed as a result of e.g. a change in the condition of the mixed phase are measured with the detecting means for detecting the strain exerted on the rod 50, and the signal is transmitted through a transducer 17 to a recorder/alarm section 19.

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